Polar Problems

For grades 2-5; Groups of 2-6

Materials Needed:
Polar Problems game board
A game piece for each player (cut from bottom of page)
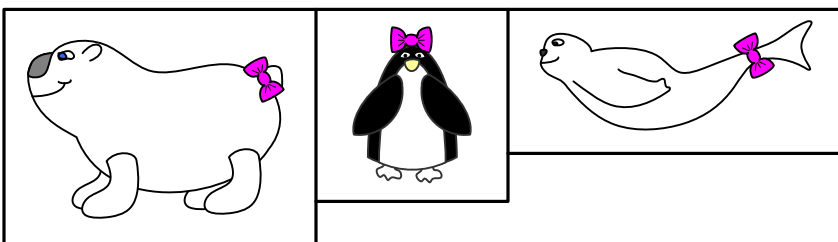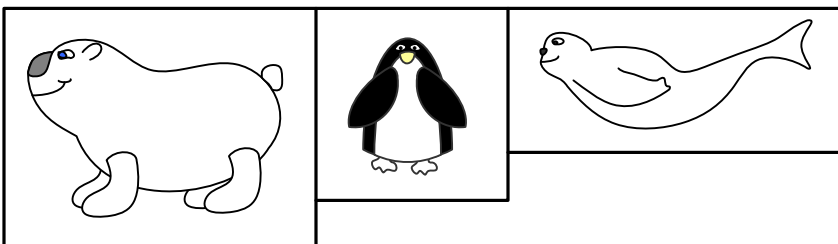1 die
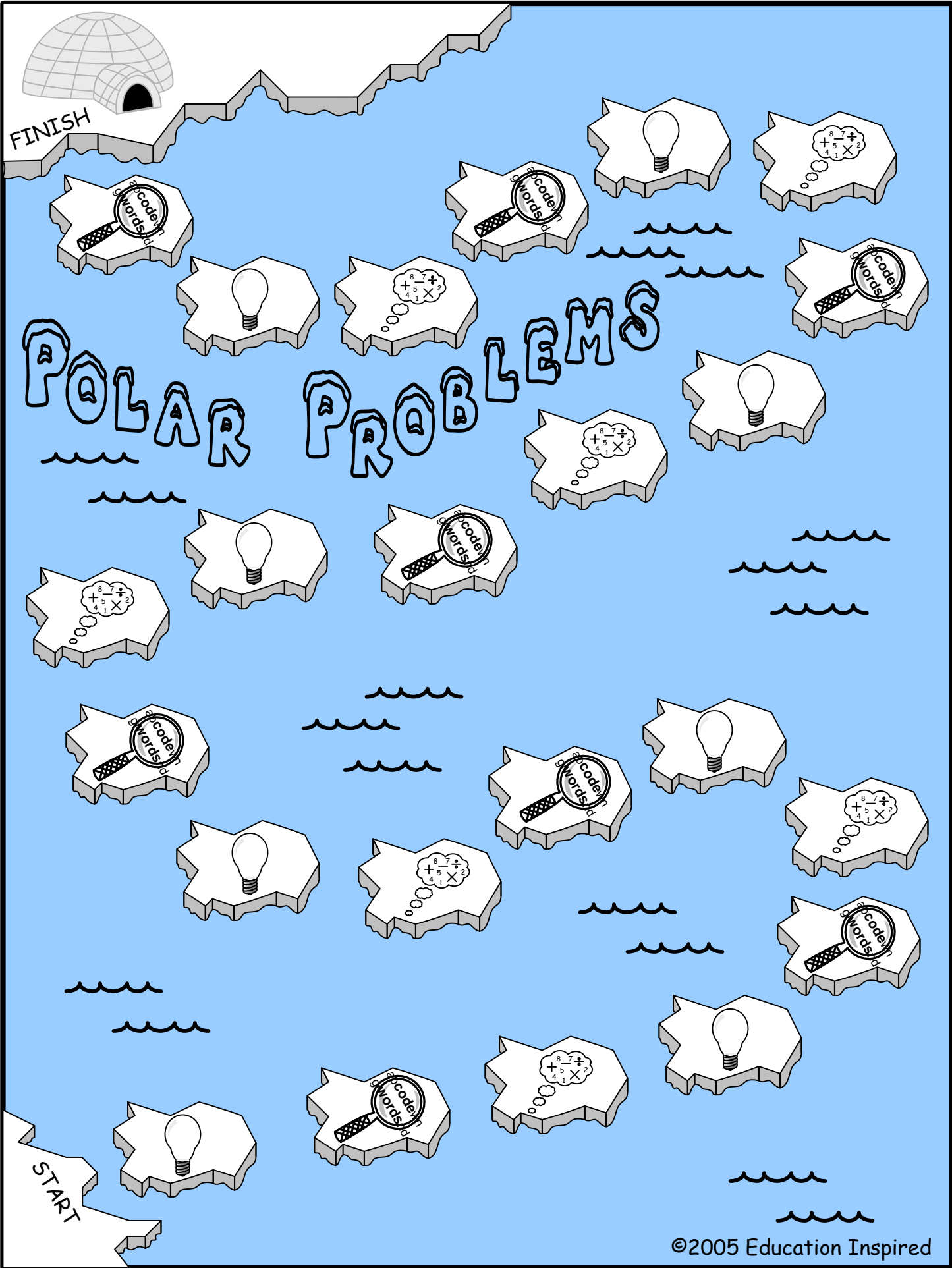Game cards

How to Construct:
1. Print the game board and instructions. Print the cards double-sided (front to back).
2. Tape the board on the front of a manila folder. Cut out the cards and game pieces.
3. Laminate the game pieces, cards, and manila folder (with the folder open).
4. Slice the laminate on the opening of the folder with a pair of scissors. Now the folder will be laminated, but you will also be able to open it.
5. Use the folder to hold the pieces and cards. When you are ready to play, just grab the folder and a die and you will have everything you need.

How to Play:
1. Each player choose a game piece and place it on the word "START." Put the game cards face up in a stack.
2. In turn, roll the die and move that number of spaces. Pick up the top card in the stack. The person to the left of the player may read the card aloud to the player.
3. The answer must correspond to the space landed on. The picture determines the question to be answered. See the separate key for an explanation of the pictures.
4. Answers are on the back of the cards. If the answer is correct, the player may stay on the space landed. If the answer is incorrect, the player must go back to the space on previously. Then turn is over and the next player may roll the die.
5. Play continues until one player reaches the "FINISH."
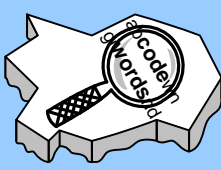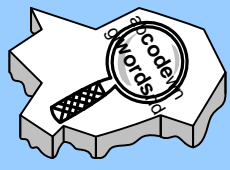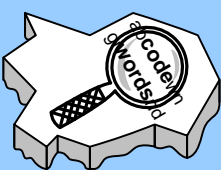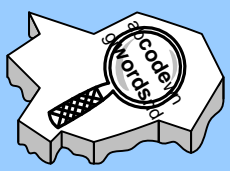
Game Pieces

FINISH

POLAR PROBLEMS

START

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FINISH
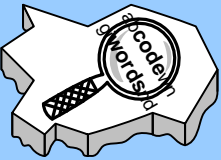
START
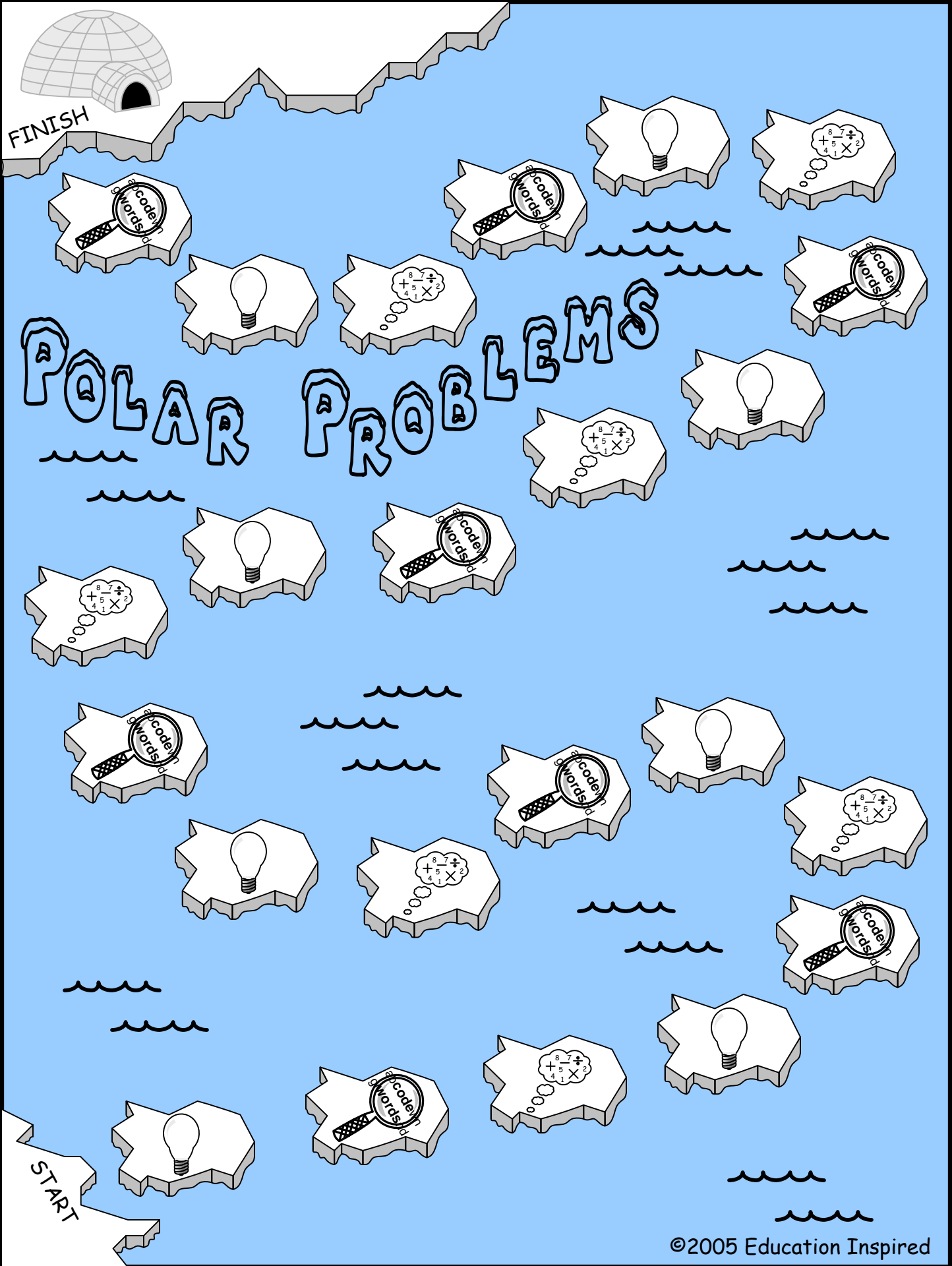
POLAR PROBLEMS

POLAR PROBLEMS

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What is the code word? What does it mean to do? Is there more than one code word?
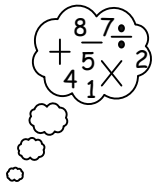
How can the problem be solved? (operations and strategies)
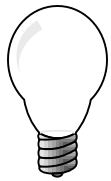
What is the answer?

What is the code word? What does it mean to do? Is there more than one code word?

How can the problem be solved? (operations and strategies)
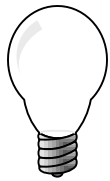
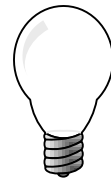What is the answer?

What is the code word? What does it mean to do? Is there more than one code word?

How can the problem be solved? (operations and strategies)

What is the answer?

|	
Three bananas are on a tree. Six apples are on a different tree. How many pieces of fruit are there total?	Joe has 6 pencils and 12 erasers. How many pencils and erasers does Joe have?
Frank has 32 freckles. Julie has 64 freckles. How many more freckles does Julie have than Frank?	374 monkeys are at the zoo. About how many monkeys are at the zoo?
One bag has 53 chips in it. Another bag has 26 chips in it. How many chips are there altogether?	George has 42 math problems for homework. He has finished 15 problems. How many math problems does George have left?
Max read 16 books last month and 32 books this month. What is the difference in the number of books Max read this month and last month?	Yesterday there were 12 pieces of mail in the mailbox. Today there was 15 more pieces. How many pieces of mail were there yesterday and today?

"And" means to add.

12
+ 6

18 erasers and pencils

"Total" means to add.

3
+ 6
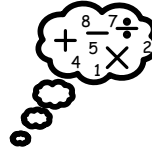
9 fruits

"About" means to round.

round 374

400 monkeys

"More" in the question means to subtract.

64
−32
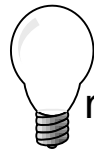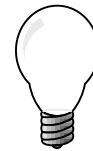
32 freckles

"Left" means to subtract.

42
−15

27 problems

"Altogether" means to add.

53
+26
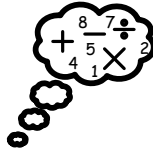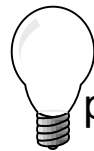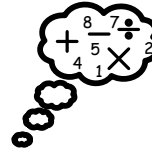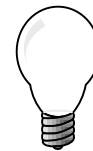
79 chips

"More" before the question means to add.

12
+15

27 pieces

"Difference" means to subtract.

32
−16
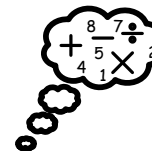
16 books

|	
Rory has 15 pencils. Mary has 7 pencils fewer than Rory. How many pencils does Mary have?	Marlene has 26 toys. Emily has 21 toys. What is the sum of the number of toys Marlene and Emily have?
63 ants crawled on the picnic blanket. 7 flies landed on the blanket. How many insects were on the blanket in all?	683 bees live in a hive. About how many bees live in the hive?
Jack bought a pencil for $0.25 and a pen for $1.25. How much did Jack spend on the pencil and pen?	Tori bought an ice cream cone for $3.50. She paid the clerk $5.00 How much change did Tori get back?
Heidi wore 13 bracelets. She took off 3 bracelets. How many bracelets does Heidi still have on?	There are five groups of students. There are 3 students in each group. How many students are there combined?

"Sum" means to add.

26
+21

47 toys

"Fewer" means to subtract.

15
− 7
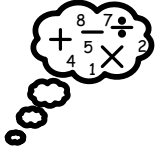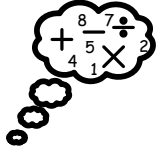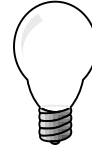
8 pencils

"About" means to round.

round 683

700 bees

"In all" means to add.

63
+ 7
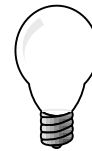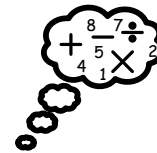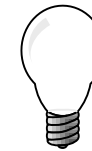
70 insects

"Change" means to subtract.

$5.00
− $3.50

$1.50

"Spend" means to add.

$1.25
+$0.25
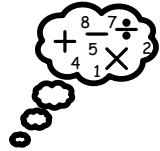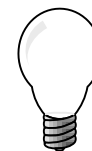
$1.50

"Combined" means to add.

5
5
+ 5

or

3
3
3
3
3
+ 3

15 students

"Off" means to subtract.

13
− 3
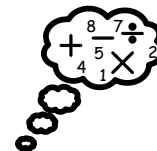
10 bracelets

There are 8 rooms in the house. 5 rooms have the lights on. How many rooms do not have lights on?	Hank wants to have 75 baseball cards. Right now he has 52 cards. How many more cards does Hank need?
88 pictures were on the wall. Now there are 9 more. How many pictures are on the wall?	62 people went to the movie Friday. What is an estimate of the number of people who went to the movie Friday?
Jill bought a drink for $1.68. Then she bought a sandwich for $3.42. How much did Jill spend on the drink and sandwich?	Angie bought some new clothes for $7.53. She paid the clerk $10.00. How much change did Angie get back?
Alex had 43 crayons. He lost 8 crayons. How many crayons does Alex have left?	Jay's football team scored 14 points in the first half and 7 points in the second half. How many points did Jay's team score altogether?

"More" in the question means to subtract.

$$\begin{array}{r} 75 \\ -\ 52 \\ \hline \end{array}$$

23 cards

"Not" in the question means to subtract.

$$\begin{array}{r} 8 \\ +\ 5 \\ \hline \end{array}$$

3 rooms

"Estimate" means to round.

round 62

60 people

"More" before the question means to add.

$$\begin{array}{r} 88 \\ +\ 9 \\ \hline \end{array}$$
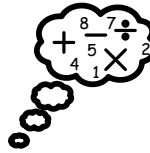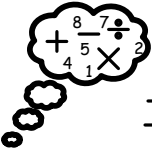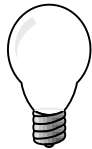
97 pictures

"Change" means to subtract.

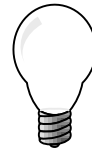$$\begin{array}{r} \$10.00 \\ -\ \$7.53 \\ \hline \end{array}$$

$2.47

"Spend" means to add.

$$\begin{array}{r} \$3.42 \\ +\$1.68 \\ \hline \end{array}$$
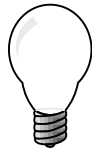
$5.10

"Altogether" means to add.

$$\begin{array}{r} 14 \\ +\ 7 \\ \hline \end{array}$$

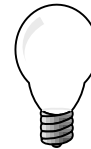21 points

"Left" means to subtract.

$$\begin{array}{r} 43 \\ -\ 8 \\ \hline \end{array}$$

35 crayons